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CURRENT DETERMINATION IN A PERMANENT MAGNET ELECTRIC MACHINE

ABSTRACT OF THE DISCLOSURE

Disclosed herein is a method for determining a torque current in an electric machine coupled to a polyphase bus. The method comprises: detecting a rotational position of the electric machine with a position encoder; controlling an inverter comprising a plurality of switching devices, the inverter having an input coupled to a direct current bus, and an output coupled to the polyphase bus. Where the inverter is responsive to commands from a controller coupled to the inverter and to the position encoder. The method also includes measuring a current from the direct current bus; and capturing the current at a predefined interval of time. Also disclosed is a system for determining a current in an electric machine coupled to a polyphase bus, the system comprising: a position encoder coupled to the electric machine to detect rotational position; an inverter having an input coupled to a direct current bus, and an output coupled to the polyphase bus. This system also includes a controller coupled to the inverter and to the position encoder; a sensor to detect a current from the direct current bus; where the sensor captures the current at a predefined interval of time. Also disclosed is a storage medium encoded with machine-readable computer program code computer data signal embodied in a carrier wave for determining a current of an electric machine is described. The storage medium and the computer data signal include instructions causing a computer to implement the abovementioned current determination method.